

Reference 4. JP Patent Publication (Kokai) No. 05-310535 (1993)

Page 2, right column, lines 6-14, (Paragraph [0005]):

Problem to be solved by the invention

When a polyalcohol, sugar alcohol or a derivative thereof is formulated in a spray type hairdressing to impart a moisturizing effect, this component increases the viscosity of the foam, thereby causing a phenomenon called "after-draw" in which the foam is extruded from the jetting nozzle even after the jetting because the foam is stable and difficult to defoam. When this after-draw occurs, it causes clogging of the jetting nozzle or contamination of the container which is problematic for commercial value.

Page 2, right column, lines 15-18 (Paragraph [0006]):

The present invention is thus accomplished under such circumstances. The object of the present invention is to provide a foamy aerosol hairdressing excellent in performance of imparting a wet feeling and hairdressing power without causing clogging of the jetting nozzle or contamination of the container.

Page 2, right column, lines 19-26 (Paragraph [0007]):

Means to solve the problem

The present invention was accomplished through the discovery that by using a hairdressing composition with a specific formulation packed in an aerosol container with a specific configuration, the hairdressing composition jetted in nebulized form finely foams on the jetted surface and not only is the after-draw significantly improved, but also excellent performance of imparting a wet feeling and hairdressing power is achieved.

Page 3, right column, lines 4-18 (Paragraph [0018]):

According to the present invention, a mixture of liquid petroleum gas (LPG) and dimethyl ether (DME) is used as the propellant. The mix ratio (ratio by weight) of the two are preferably from 5/95 to 30/70, more preferably from 10/90 to 25/75. As a function of the propellant, LPG is primarily involved in foaming, while DME is mainly involved in propelling and defoaming. Therefore, when the mix ratio of DME exceeds 5/95, there is almost no after-draw due to the defoaming ability of DME itself; however, the foaming ability of the propellant is poor and it is difficult to obtain a fine, good foam on the jet applied surface. On the other hand, when the mix ratio of LPG exceeds 30/70, although a fine foam can be achieved, the

after-draw is unimproved which is non-preferable. LPG is a mixture of n-propane, isobutane, n-butane and usually one with a gauge pressure of 1.4-4.4kg/cm² at 20°C is used.



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AN 1993-410762 [51]

XA C1993-183051

TI Foam-type aerosol hairdressing material without choking of spraying outlet
comprises hairdressing base agent, e.g. polyhydric alcohol, foaming agent, 1-3
carbon lower alcohol, spraying agent and water

DC A96 D21

PA (LIOY) LION CORP

(OSOL) OSAKA AEROSOL KOGYO KK

IN FUJIO H; MATSUURA M; SATO M; TAJIMA M

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JP05310535 A 19931122 DW1993-51 A61K-007/06 Jpn 9p *

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A61K-008/37 [2006-01 A L I R - -]

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AB The aerosol hairdressing material comprises a hairdressing base agent(s)
comprising one or a mixt. of polyhydric alcohols, sugar alcohols and random and
addn. polymers of propylene and/or butylene oxide of the alcohols and their ester
cpds., a 1-3C lower alcohol(s), a foaming agent(s), a spraying agent(s) and water.
USE: The material foams finely on the hair when sprayed directly, permitting
simple hairdressing without contamination of the hand. The material exerts high
hairdressing power, imparts wetness and glossiness and causes little afterdraw of
the spraying outlet.

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